Perspective

iMedPub Journals
www.imedpub.com

Pediatric Emergency Care and Medicine: Open Access

2025
Vol.9 No.1:152

Sports-related Injuries in Children: Emergency Care Perspectives

Mackie Haber*

Department of Orthopaedics, Valley Hospital Medical Center, Las Vegas, USA

***Corresponding author:** Mackie Haber, Department of Orthopaedics, Valley Hospital Medical Center, Las Vegas, USA; **Email:** haber.mackie@valley.hospital

Received date: January 06, 2025; **Accepted date:** January 24, 2025**; Published date:** January 31, 2025

Citation: Haber M (2025) Sports-related Injuries in Children: Emergency Care Perspectives. Pediatr Emerg Care Med Open Access Vol.09 No.1: 152.

Introduction

Sports participation plays an essential role in the physical, psychological and social development of children. It promotes fitness, teamwork and discipline while reducing the risk of lifestyle-related diseases. However, increased participation in organized and recreational sports has also led to a rise in sports-related injuries among children and adolescents. These injuries range from minor sprains and strains to severe fractures, concussions and even life-threatening conditions requiring immediate medical intervention. Timely assessment, accurate diagnosis and appropriate intervention are vital not only to ensure immediate recovery but also to prevent long-term complications that could affect growth and development. Furthermore, emergency care extends beyond physical treatment to include psychological support for children and education for caregivers. This article explores the patterns, challenges and emergency management strategies of sports-related injuries in children, with an emphasis on prevention and long-term outcomes [1].

Description

Sports-related injuries in children often vary according to the type of sport, level of competition and age of the participants. Common injuries include sprains, strains, fractures and dislocations, typically involving the lower extremities. Growth plate injuries (physeal fractures) are of particular concern in children because they may disrupt bone development and lead to deformities if not properly managed. Overuse injuries, such as stress fractures and tendonitis, are also becoming increasingly prevalent due to early sports specialization and intensive training. Head injuries, particularly concussions, are a major focus in pediatric sports medicine. Children are more vulnerable to concussions due to their developing brains and weaker neck musculature. Symptoms may include headache, dizziness, confusion and memory loss, but in some cases, signs may be subtle or delayed, making diagnosis challenging in the ED. Emergency providers must remain vigilant for red-flag symptoms such as loss of consciousness, repeated vomiting, or altered mental status, which warrant urgent imaging and specialist referral [2].

Emergency care for pediatric sports injuries is complicated by several unique factors. Children may struggle to describe their pain or symptoms, requiring clinicians to rely on parental accounts and careful observation. Normal vital sign ranges differ significantly with age, making clinical interpretation more nuanced. In musculoskeletal injuries, children may resist examination due to fear or pain, necessitating skilled communication and, at times, sedation for proper evaluation and treatment. Growth plate involvement can be subtle on imaging, underscoring the importance of expertise in pediatric radiology. Parents, coaches and even young athletes may underestimate injury severity, pressuring clinicians to expedite clearance. Emergency providers must emphasize safe return-to-play protocols, particularly for concussions, where premature participation increases the risk of second-impact syndrome, a rare but fatal complication. Additionally, resource limitations in some EDs, such as lack of pediatric orthopedic specialists or advanced imaging, can hinder timely diagnosis and management, highlighting the need for referral networks and standardized guidelines [3].

Management of sports-related injuries in children follows principles of rapid stabilization, accurate diagnosis and appropriate intervention. For musculoskeletal injuries, initial care includes immobilization, pain control and imaging to rule out fractures or dislocations. In cases of suspected growth plate involvement, urgent referral to orthopedics is necessary. Concussion management involves neurological assessment, observation and strict avoidance of activities until symptoms resolve and clearance is provided by a specialist. Severe injuries, such as traumatic brain injury or spinal trauma, require airway management, cervical spine precautions and advanced resuscitation measures. Providers play a crucial role in counseling families about protective equipment, safe training practices and the importance of gradual return to sports. Schools and community programs benefit from ED-driven initiatives promoting concussion awareness, hydration, warm-up routines and limits on repetitive strain activities. Psychological support is equally important, as sports-related injuries can impact a child's confidence, social life and emotional well-being. By adopting a holistic approach, emergency care providers not only address the acute injury but also support long-term recovery and resilience [4].

Recent advancements in pediatric sports injury care focus on technology-driven solutions and multidisciplinary collaboration. Portable imaging devices and point-of-care ultrasound are improving diagnostic accuracy in the ED. Digital tools, including concussion assessment apps and wearable devices; provide real-time monitoring of impact forces and symptom tracking. Simulation-based training for emergency clinicians enhances readiness in managing complex pediatric trauma cases. Moreover, multidisciplinary models involving pediatricians, sports medicine specialists, physical therapists and psychologists ensure comprehensive care that extends beyond the ED visit. Future directions emphasize preventive strategies, particularly in addressing overuse injuries linked to early sports specialization. National guidelines increasingly advocate for diversified sports participation, scheduled rest periods and gradual training progression. Community-based education campaigns led by emergency providers may further enhance awareness and reduce injury rates. Ultimately, integrating prevention, technology and interdisciplinary care into emergency practices promises to improve outcomes for children affected by sports-related injuries [5].

Conclusion

Sports-related injuries in children represent a growing concern in emergency care, given their unique physiological vulnerabilities and long-term developmental implications. Effective emergency management requires timely assessment, accurate diagnosis and tailored interventions that prioritize both immediate recovery and future health. Challenges such as growth plate injuries, concussions and family expectations necessitate specialized pediatric expertise and clear communication. Innovations in technology, training and prevention offer promising solutions to enhance accuracy and efficiency in emergency care. By adopting a holistic and preventive approach, healthcare providers can safeguard children's health, support their athletic participation and promote lifelong physical activity with minimal risk.

Acknowledgment

None.

Conflict of Interest

None.

References

1. Hui SSC, Zhang R, Suzuki K, Naito H, Balasekaran G, et al. (2020). Physical activity and health-related fitness in Asian adolescents: The Asia-fit study. J Sports Sci 38: 273-279.

2. Jayanthi NA, LaBella CR, Fischer D, Pasulka J, Dugas LR (2015). Sports-specialized intensive training and the risk of injury in young athletes: A clinical case-control study. Am J Sports Med 43: 794-801.

3. Ristolainen L, Toivo K, Parkkari J, Kokko S, Alanko L, et al. (2019). Acute and overuse injuries among sports club members and non-members: The Finnish Health Promoting Sports Club (FHPSC) study. BMC Musculoskelet Disord 20(1), 32.

4. Shigematsu R, Katoh S, Suzuki K, Nakata Y, Sasai H (2021). Sports specialization and sports-related injuries in Japanese school-aged children and adolescents: A retrospective descriptive study. Int J Environ Res Public Health 18(14), 7369.

5. Miyake E, Yatsunami M, Kurabayashi J, Teruya K, Sekine Y, et al. (2016). A prospective epidemiological study of injuries in Japanese national tournament-level badminton players from junior high school to university. Asian J. Sports Med 7: e29637.